

CLAIMS

1. A communication handover method for use in a mobile node in a communication system in which a plurality of access routers each constituting a subnet are connected together over a communication network and at least one or more of access points forming a unique communication available area are connected to each of said plurality of access routers, said mobile node being so structured as to communicate with said access router connected with said access points, through radio communication with said access points within said communication available area, said communication handover method comprising:
 - 15 a storing step of storing correspondence information describing a correspondence relationship between information on said access points and information on said access router connected to said access points into a predetermined information storage means of said mobile node;
 - 20 a reception step of receiving information on another access point from said another access point when communication is switched over from an access point currently in communication to said another access point;
 - 25 an acquisition step of acquiring information on that

access router to which said another access point is connected from said correspondence information based on the information on said another access point received at said reception step; and

5 an address generation step of generating address information in said subnet constituted by said access router, from the information on said access router acquired at said acquisition step.

10 2. The communication handover method according to claim 1, comprising an address information transmission step of transmitting said address information generated at said address generation step to said access router to which said access point currently in communication is connected, through said access point currently in communication.

15 3. A communication handover method for use in a mobile node in a communication system in which a plurality of access routers each constituting a subnet are connected together over a communication network and at least one or more of access points forming a unique communication available area are connected to each of said plurality of access routers, said mobile node being so structured as to communicate with said access router

connected with said access points, through radio communication with said access points within said communication available area, said communication handover method comprising:

5 a storing step of storing correspondence information describing a correspondence relationship between information on said access points and information on said access router connected to said access points into a predetermined information storage means of said mobile
10 node;

 a reception step of receiving information on another access point from said another access point when communication is switched over from an access point currently in communication to said another access point;

15 an acquisition step of acquiring information on that access router to which said another access point is connected from said correspondence information based on the information on said another access point received at said reception step;

20 a determination step of determining from the information on said access router acquired at said acquisition step whether or not changing address information currently assigned in connection of said subnet is necessary when communication is switched from
25 said access point currently in communication to said

another access point; and

an address control step of performing such control
as to continuously use said currently assigned address
information upon determination that it is not necessary
5 to change said address information at said determination
step.

4. The communication handover method according to
claim 3, wherein at said determination step, comparison
10 is made to check whether or not information relating to
the subnet of said access router connected to said access
point currently in communication and information relating
to the subnet of said access router connected to said
another access point match with each other, and it is
15 determined that changing said address information is not
necessary when both information match with each other.

5. The communication handover method according to
claim 1 or 3, comprising a process switching step of
20 performing a process based on conventional handover when
the information on said access router to which said
another access point is connected cannot be acquired from
said correspondence information at said acquisition step.

25 6. The communication handover method according to

claim 1 or 3, comprising:

a correspondence information reception step of receiving information relating to a change in said correspondence information from a predetermined communication apparatus which manages said correspondence information or said access router; and

a correspondence information update step of updating said correspondence information stored in said predetermined information storage means with the information relating to the change in said correspondence information.

7. The communication handover method according to claim 6, comprising an information check step of periodically checking said predetermined communication apparatus or said access router to see whether or not there is information relating to a new change of said correspondence information.

8. The communication handover method according to claim 1 or 3, wherein a link layer address of said access point is used as the information on said access point, and a link layer address of said access router, a network prefix and a prefix length of said subnet constituted by said access router are used as the information on said

access router.

9. The communication handover method according to
claim 1 or 3, wherein said correspondence information
5 describes a correspondence relationship between the
information on said access point in said subnet to which
said mobile node is currently connected, and the
information on said access router, and a correspondence
relationship between the information on said access point
10 in said subnet present in a neighborhood of said subnet
to which said mobile node is currently connected and the
information on said access router.

10. The communication handover method according to
15 claim 1 or 3, wherein said correspondence information
describes only a correspondence relationship relating to
said access router which employs a scheme of permitting
said mobile node to generate the address information in
said subnet, and said access point connected to said
20 access router.

11. A communication handover program for allowing a
computer to execute the communication handover method
according to claim 1 or 3.

12. A communication system in which a plurality of access routers each constituting a subnet are connected together over a communication network and at least one or more of access points forming a unique communication
5 available area are connected to each of said plurality of access routers, and a mobile node present in said communication available area is so structured as to communicate with said access router connected with said access points, through radio communication with said
10 access points, wherein

 said mobile node has correspondence information storage means for storing correspondence information describing a correspondence relationship between information on said access points and information on said
15 access router connected to said access points into a predetermined information storage means of said mobile node, and

 said mobile node is structured in such a way that when communication is switched over from an access point
20 currently in communication to another access point, information on that access router to which said another access point is connected is acquired based on the information on said another access point received from said another access point by referring to said
25 correspondence information, and address information in

said subnet constituted by said access router is generated from said acquired information on said access router.

5 13. A communication system in which a plurality of access routers each constituting a subnet are connected together over a communication network and at least one or more of access points forming a unique communication available area are connected to each of said plurality of 10 access routers, and a mobile node present in said communication available area is so structured as to communicate with said access router connected with said access points, through radio communication with said access points, wherein

15 said mobile node has correspondence information storage means for storing correspondence information describing a correspondence relationship between information on said access points and information on said access router connected to said access points into a 20 predetermined information storage means of said mobile node, and

 said mobile node is structured in such a way that when communication is switched over from an access point currently in communication to another access point, 25 information on that access router to which said another

access point is connected is acquired based on the information on said another access point received from said another access point by referring to said correspondence information, and it is determined from the 5 acquired information on said access router whether or not changing address information currently assigned in connection of said subnet is necessary when communication is switched from said access point currently in communication to said another access point, and said 10 currently assigned address information is continuously used upon determination that it is not necessary to change said address information.

14. The communication system according to claim 12
15 or 13, structured in such a way as to execute a process by conventional handover when said mobile node cannot acquire the information on said access router to which said another access point is connected, from said correspondence information.

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15. The communication system according to claim 12 or 13, wherein a predetermined communication apparatus which manages said correspondence information is connected to said communication network, and is so 25 structured as to transmit said correspondence information

to said mobile node.

16. The communication system according to claim 12
or 13, wherein when a change in the information on said
5 access point or the information on said access router
occurs, said predetermined communication apparatus
receives the information on said access point or the
information on said access router after generation of the
change, from said access router, updates said
10 correspondence information managed by said predetermined
communication apparatus, and informs said mobile node
that said correspondence information has been changed.

17. The communication system according to claim 12
15 or 13 structured in such a way that management of said
correspondence information is performed by said access
router to realize said predetermined communication
apparatus by said access router.